Abstract P134 Table 1

	10% most deprived	Other
Total	20 (43%)	26 (57%)
Male sex	65%	54%
Average age (years)	62.3	62.6
Maximal FiO2 < 0.6	13 (65%)	9 (35%)
ITU admission	4 (20%)	10 (38%)
T2DM	6 (30%)	3 (12%)
Ex-smoker	13 (65%)	11 (42%)
Average score fibrosis	10.06	10.14

CXR or CVCX2 code with positive PCR test for COVID-19, who survived to follow-up at 3 months. Of 912 patients identified, 46 (5%) had new fibrotic changes on CT. Imaging was reviewed by a radiologist using suggested scoring system for COVID-19 follow-up² based on sum of 0–5 severity in 5 lobes (total 0–25) for markers of fibrosis. Deprivation decile was captured from patient postcode.

Results 42/46 (91%) lived in a neighbourhood within the 50% most deprived for health and disability in England; 20 (43%) within the 10% most deprived. Comparison is shown in table 1.

Conclusions We have shown patients surviving COVID-19 who developed new fibrosis are significantly more likely to live within a deprived postcode. Patients within the 10% most deprived postcodes for health and disability are more likely to be male and ex-smokers. We also noted patients developing fibrotic changes on CT within lowest 10% for deprivation had lower rates of ITU admission and required lower FiO2 (indicating less severe disease) but with equivalent radiological findings to those within less deprived areas. Severe deprivation may in itself increase risk of developing long-term respiratory complications from COVID-19, propagating the ongoing cycle of health and deprivation.

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CLINICAL, FUNCTIONAL AND PSYCHOLOGICAL CHARACTERISTICS OF SURVIVORS OF SEVERE COVID-19 PNEUMONIA: A COMPARISON OF OUTCOMES FROM THE FIRST AND SECOND WAVES

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Introduction and Objectives The UK has experienced two major waves of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections, peaking in April 2020 (Wave 1) and January 2021 (Wave 2). Critical care survival rates in

Abstract P135 Table 1 Patient demographics, self-reported scores and functional test results by wave

	1st wave	2nd wave	p-value
Demographics	n=167	n=141	
Age	59±13	58±12	0.564
Female	60 (35.93; 28.94–43.40)	62 (43.97; 35.97–52.22)	0.15
BMI (kg/m ²)	30.5 (26.6–35.2)	32.1 (28.5–37.9)	0.009 **
BAME	115 (69.7; 62.39–76.32)	72 (59.5; 50.62–67.94)	0.073
Number of comorbidities	2 (1–3)	2 (1–3)	0.144
Patients Receiving Drugs			
Dexamethasone	11 (6.63; 3.57–11.17)	138 (97.87; 94.43–99.40)	<0.001 ***
Remdesivir	18 (10.84; 6.79–16.24)	81 (57.45; 49.20–65.39)	<0.001 ***
Other Immunomodulator	2 (1.20; 0.25–3.81)	31 (21.99; 15.76–29.35)	<0.001 ***
Questionnaire Scores	n=164	n=132	
NRS Breathlessness	2 (0–5)	3 (0–5)	0.153
≥4	56 (34.78; 27.75–42.36)	52 (37.14; 29.47–45.34)	0.67
NRS Cough	0 (0–2)	0 (0–3)	0.439
≥4	17 (10.56; 6.52–16.00)	18 (13.64; 8.59–20.26)	0.419
NRS Fatigue	3 (0–5)	3 (0–5)	0.867
≥4	65 (40.63; 33.24–48.35)	48 (36.92; 28.99–45.43)	0.52
NRS Pain	0 (0–5)	1 (0–3)	0.682
≥4	44 (27.50; 21.03–34.78)	30 (23.08; 16.48–30.86)	0.39
NRS Sleep disturbance	2 (0–5)	2 (0–5)	0.558
≥4	52 (32.50; 25.61–40.02)	49 (37.40; 29.47–45.89)	0.382
Pre-COVID-19 mMRC	1 (0–2)	1 (1–2)	0.478
Post-COVID-19 mMRC	0 (0–1)	0 (0–1)	0.329
Post-COVID-19 mMRC	66 (40.99; 33.61–48.70)	49 (38.58; 30.45–47.23)	0.678
PCFS	2 (0–3)	1 (0–2)	0.055
PCFS ≥2	80 (50.00; 42.31–57.69)	51 (42.15; 33.62–51.05)	0.191
PHQ-9 ≥10	32 (20.38; 14.66–27.19)	29 (23.02; 16.33–30.92)	0.592
GAD-7 ≥10	34 (21.38; 15.56–28.24)	16 (12.80; 7.81–19.49)	0.059
TSQ ≥6	43 (27.56; 21.01–34.94)	27 (22.31; 15.60–30.33)	0.319
Functional Tests	n=160	n=139	
4MGS <0.8 (ms ⁻¹)	67 (42.41; 34.89–50.19)	47 (35.07; 27.38–43.40)	0.201
1STS repetitions	18 (12–23)	17 (12–21)	0.460
<2.5 percentile	96 (60.00; 52.29–67.36)	108 (77.70; 70.25–84.00)	0.011 *
Desaturation ≥4%	52 (34.67; 27.40–42.52)	42 (32.31; 24.73–40.67)	0.677

Parametric data are presented as mean ± standard deviation, non-parametric data are presented as median (interquartile range) or frequency (proportion; 95% confidence interval). Statistical significance indicated by * (p<0.05), ** (p<0.01), *** (p<0.001). BMI = Body mass index, BAME = Black, Asian or minority ethnic, NRS = Numerical rating scale (0–10), mMRC = modified Medical Research Council for dyspnoea (0–4), PCFS = Post-COVID-19 functional status scale (0–4), PHQ-9 = Patient health questionnaire 9 (0–27), GAD-7 = General Anxiety Disorder-7 scale (0–21), TSQ = Trauma screening questionnaire (0–10), 4MGS = 4-metre gait speed, 1STS = 1-minute sit-to-stand.

severe COVID-19 pneumonia improved towards the latter stages of Wave 1, due in part to implementation of evidence-based interventions such as early administration of dexamethasone. We aimed to compare symptom burden and functional outcomes post-hospitalisation in Wave 1 and Wave 2 patients attending severe post-COVID clinic.

Methods Prospective single-centre observational cohort study. Patients admitted with severe COVID-19 pneumonia (admission duration ≥ 48 hours, oxygen requirement $\geq 40\%$ or critical care admission) were invited to the severe post-COVID clinic at 6–8 weeks following hospital discharge. Demographics and anthropometrics, inpatient clinical course, patient-reported (symptoms, functional disability, mental health) and physiological outcomes (4-metre gait speed (4MGS), 1-minute sit-to-stand (1STS) repetitions and SpO₂ desaturation) were recorded. Outcomes from patients admitted during Wave 1 (until 31/8/2020) were compared to patients admitted during Wave 2 (after 01/9/2020).

Results Between June 2020 and April 2021, 167 1st wave (W1) and 141 2nd wave survivors (W2) were assessed in clinic at 62 (50–72) and 61 (58–65) days post hospital discharge respectively. Age, gender, ethnicity and multimorbidity was comparable in W1 and W2 (Table 1). Dexamethasone had been administered to 6.6% of W1 and 97.9% of W2 patients. Comparing W2 to W1, length of hospital stay was shorter (10 (7–14) vs 15 (9–38) days, $p < 0.001$), invasive mechanical ventilation (IMV) was less frequent (22.7% vs 37.2%) and IMV duration was shorter (7 (4–12) vs 30 (11–40) days, $p < 0.001$). There were no significant differences in breathlessness, cough, pain, fatigue, 4MGS or 1STS SpO₂ desaturation (table 1). However, 1STS performance (repetitions/min) was below age and gender-adjusted lower limits of normal (< 2.5 percentile) in 77.7% of W2 compared to 60.0% of W1 patients ($p = 0.011$).

Conclusion Despite shorter admission duration, and less frequent IMV, the burden of symptoms and functional limitation experienced post-hospitalisation for severe COVID-19 pneumonia was at least as severe during Wave 2 as in Wave 1. Identification of contributing factors and impact on post-COVID rehabilitation outcomes requires further study.

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THE RELATIONSHIP BETWEEN SYMPTOMS AND FUNCTIONAL PHYSIOLOGICAL OUTCOMES IN SURVIVORS OF SEVERE COVID-19 PNEUMONIA

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Introduction and Objectives Holistic post-COVID assessment should include physiological testing, however this may be challenging to deliver in accordance with local infection prevention control precautions. The aim of this study was to evaluate associations between patient-reported and physiological measures of recovery following severe COVID-19 pneumonia. The principal objective was to understand whether patient characteristics and symptom scores are predictive of physiological impairment.

Methods This was a prospective single-centre observational study undertaken in the severe COVID-19 follow-up clinic of a South London Hospital. Survivors of severe COVID-19 pneumonia were assessed in clinic at 6–8 weeks post hospital discharge. Relationships between symptoms (outcome measures are listed in table 1), 4-metre gait speed (4MGS), and 1-minute sit-to-stand (repetitions/min (1STSreps) and SpO₂% desaturation) were assessed by correlation and multiple regression analysis.

Results Between June 2020–March 2021, 311 patients were assessed in clinic. Mean $\pm$ SD age 59 ± 13 , 60% male, median (IQR) BMI 31.4 (27.5 – 36.3) kg/m². 30% had received invasive mechanical ventilation, 13% received high flow nasal oxygen, 8% received CPAP, 1% received non-invasive ventilation and 48% required facemask oxygen (FMO2) only. At follow-up, 39% breached the clinically-significant threshold for 4MGS ($4MGS < 0.8$ m/s) and 66% breached the threshold for 1STS performance ($1STSreps < 2.5$ percentile adjusted for age and gender). 33% desaturated $\geq 4\%$ during 1STS testing.

Abstract P136 Table 1 Results of correlation analysis

	Results	Correlation analysis					
		4MGS		1STSreps		SpO ₂ % desaturation	
		r	p-value	r	p-value	r	p-value
Pre-COVID mMRC dyspnoea score	0(0–1)	-0.267**	<0.001	-0.285**	<0.001	-0.108	0.094
Post-COVID mMRC dyspnoea score	1(0–2)	-0.442**	<0.001	-0.457**	<0.001	-0.143*	0.025
NRS breathlessness	3(0–5)	-0.287**	<0.001	-0.406**	<0.001	-0.490	0.445
NRS fatigue	3(0–5)	-0.315**	<0.001	-0.379**	<0.001	-0.190*	0.003
NRS cough	0(0–2)	-0.660	0.292	-0.153*	0.017	0.083	0.194
NRS pain	1(0–4)	-0.278**	<0.001	-0.346**	<0.001	-0.188*	0.003
NRS sleep difficulty	2(0–5)	-0.246**	<0.001	-0.386**	<0.001	-0.122	0.057

Data are presented as median (interquartile range) or frequency (proportion%; 95% confidence interval). SpO₂% desaturation = SpO₂% desaturation from baseline during 1 minute sit to stand test; 1STSreps = repetitions per minute during 1 minute sit to stand test; 4MGS = 4 metre gait speed; mMRC = modified Medical Research Council; NRS = 0–10 numerical rating scale; r = Spearman correlation coefficient. *indicates statistical significance at 0.05 level. **indicates statistical significance at 0.001 level.